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Stereoselective reduction of 1-benzyl-3,3-dimethyl-5-methylenepyrrolidine-2,4-dione using sodium borohydride with selected metal chlorides [\(H416\)](#)

[Tindak balas penurunan stereoselektif 1-benzil-3,3-dimetil-5-metilenapirolidina-2,4-dion menggunakan natrium borohidrat dengan logam klorida terpilih]

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Abstract

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1-benzyl-3,3-dimethyl-5-methylenepyrrolidine-2,4-dione is an intermediate product produced in the synthesis towards the natural bioactive compound, zopfalamide A. This compound was synthesized via four main steps including dimethylations, addition with CuBr_2 , cyclization with benzylamine and reaction with formaldehyde. The corresponding intermediate was an α,β -unsaturated ketone having exo-alkene group, and it was subjected to reduction using sodium borohydride and selected metal chlorides. In this study, the effect and the hydride transfer mechanism of sodium borohydride-metal chlorides system in the reduction of 1-benzyl-3,3-dimethyl-5-methylenepyrrolidine-2,4-dione was investigated based on the stereochemical outcome of the product. © 2017, Malaysian Society of Analytical Sciences. All rights reserved.

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Author keywords

[Eso-alkena](#) [Metal borohydride](#) [Reduction](#) [Stereoselektive](#)

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1 Bresn, R.N., Lay, S.V., McDermott, B., Prossiou, P.A.

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